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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/715,192

11/18/2003

Daniel Charles Heinz

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238 SOUTH WOLFE STREET
BALTIMORE, MD 21231

EXAMINER

TORRES, ALICIA M

ART UNIT	PAPER NUMBER
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3671

MAIL DATE	DELIVERY MODE
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08/09/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/715,192

Applicant(s)

HEINZ ET AL.

Examiner

Alicia M. Torres

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 June 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18 and 20-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18 and 20-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Specification

The amendment filed 20 June 2007 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows:

the angle of the drive shafts from vertical has been narrowed from a range of 1 and 90 degrees to a range of 5 and 90 degrees (see paragraph [0010], lines 5 and 7);

the options of power provided to the drive shafts now include a differential power distribution (see paragraph [0022, line 6]).

Applicant is required to cancel the new matter in the reply to this Office Action.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 18 and 20-38 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The amendment made to claim 18 requires now that each shaft project downward from a power means at an angle tilted longitudinally between 5 and 90 degrees from

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vertical (claim 18, line 6), however, the original written description provides support for an angle range of 1 and 90 degrees. By narrowing the angle range, the applicant has excluded a number of prior art references, most of which include drive shafts positioned very close to vertical, and is effectively claiming a lawnmower very different than originally disclosed.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 26 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim is unclear since it sets forth a power means *consisting* of a hybrid power source *comprising* an engine and a motor. The transitional term “consisting” is a closed term and excludes any element not specified in the claim. The transitional term “comprising”, on the other hand, is an open-ended term which does not exclude additional elements. It is unclear then if additional elements may or may not be included in the power means of claim 26.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 18, 20-30 and 35-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beranek et al. 2,478,558 in view of Shurman et al. 5,007,234.

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Beranek et al. discloses a rotary cutting apparatus comprising:

- A replaceable blade (23, replaceable by removing nut 24) fixed to the end of a drive shaft (22) in substantially perpendicular orientation to the shaft (22), the height of the blade (23) being adjustable relative to the cutting surface (by adjusting the runners 28 with the slotted bars 31 and bolts 33, 34)
- The shaft (22) projecting downward from a replaceable power means (16, 20, replaceable by unhinging the motor 16 at 17) comprising a single electric motor (16) at an angle tilted longitudinally between 5 and 90 degrees from vertical without tilting the chassis around the wheel axis 3 (Beranek et al.'s angle is fixed at about 5 degrees as seen Figures 1 and 3)
- A grass guide (35) being a straight, rigid structure mounted substantially parallel to the drive shaft (22, the rear-most vertical side of the grass guide is parallel to the drive shaft as seen in Figure 1)
 - The bottom-most portion (36) of the grass guide (35) remains in a mounting position abutting a horizontal plane that is above any horizontal plane that is abutted by the end of the blade (23), the end of the blade (23) being in its lowest position such that the blade (23) will only cut grass when the blade (23) is in the lower portion of its plane of rotation, reducing the blade's (23) cutting area and therefore reducing the power required to cut grass
 - The grass guide (35) also forces grass of sufficient height to contact the grass guide (35) prior to encountering the blade (23) and in the cutting path of the blade (23) to bend such that the uncut grass in the cutting path is positioned in an

approximately perpendicular orientation to the blade's (23) plane of rotation and is constrained such that movement of the uncut grass is restricted as it is cut by the blade (23)

- A chassis (4)
- Means (5) for effecting movement of the apparatus over a cutting surface comprising
 - A handle (9) to facilitate manual propulsion
 - Wheels (2) fixed to the chassis (4) by way of the wheel axles (3).

However, Beranek et al. fails to disclose a plurality of blades and respective drive shafts;

Wherein the power means comprises a plurality of small electric motors powered by a battery;

Wherein the power means consists of an internal combustion engine;

Wherein the power means consists of a hybrid power source comprising an internal combustion engine and an electric motor;

Wherein the motor is powered by batteries and a solar cell;

Wherein the apparatus is self-guiding.

Shurman et al. discloses a self-guiding apparatus (1) including a plurality of blades (12a-12d) mounted to their respective drive shafts (13). Shurman et al. discloses different combinations of power means, including:

- A plurality of small electric motors (10a-10d) powered by a battery (16)
- An internal combustion engine (see column 4, lines 49-50)
- A hybrid comprising an internal combustion engine and an electric motor (see column 5, lines 16-19)

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- Batteries and a solar cell (see column 4, lines 45-49).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the plurality of blades, drive shafts and motors as disclosed by Shurman et al. on the apparatus of Beranek et al. in order to provide fine trimming and adjustments when cutting grass.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the alternative power means disclosed by Shurman et al. on the device of Beranek et al. in order to provide alternative and interchangeable power means that are economical to operate.

Claims 31 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beranek et al. and Shurman et al. as applied to claims 23 and 24 above, and further in view of Fillman et al. 6,571,542.

The apparatus is disclosed as applied above. However, the combination fails to disclose wherein the motors are powered by a fuel cell.

Fillman et al. discloses a similar mowing apparatus and teaches that a fuel cell may be used instead of a battery to power a motor since a fuel cell will not run down like a battery would (see column 5, lines 44-58).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a fuel cell as disclosed by Fillman et al. to power a motor on the apparatus of Beranek et al. and Shurman et al. in order to provide a power source that needs only refueling with hydrogen and oxygen and doesn't run down like a battery would.

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Claims 33 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beranek et al. and Shurman et al. as applied to claims 23 and 24 above, and further in view of Jepson 2,926,478.

The apparatus is disclosed as applied to claims 23 and 24 above. However, the combination fails to disclose wherein the motor is powered by an electrical extension cord plugged into an electrical outlet.

Jepson discloses a similar mowing apparatus (20) including a power cord (144) of substantial length to permit mowing a lawn.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the power cord of Jepson on the mowing apparatus of Beranek et al. and Shurman et al. in order to provide power to a mowing apparatus instead of a battery for mowing a substantial area of lawn.

Response to Arguments

Applicant's arguments with respect to claims 18 and 20-38 have been considered but are moot in view of the new ground(s) of rejection. Please see the 35 USC 112 and art rejections above.

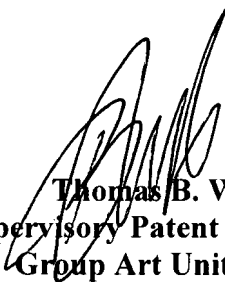
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alicia M. Torres whose telephone number is 571-272-6997. The examiner can normally be reached Monday through Friday from 7:00 a.m. – 4:30 p.m.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas B. Will, can be reached at 571-272-6998.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is 571-272-3600. The fax number for this Group is 571-273-8300.



Thomas B. Will
Supervisory Patent Examiner
Group Art Unit 3671

AMT
August 2, 2007